

## **REMARKS**

This application has been reviewed in light of the Office Action mailed December 29, 2010. Reconsideration of this application in view of the below remarks is respectfully requested. Claims 1, 3 – 8, 22 – 25, 38 – 41, 46 – 54, 74, 75, 84 and 85 are pending in the application with Claims 22 – 25, 38 – 41 and 46 – 49 having been previously withdrawn. By way of the present amendment, independent Claims 1, 4, 50, 74, 75, 84 and 85 are amended, and Claim 2 is canceled. The features recited in amended Claims 1, 4, 50, 74, 84 and 85 are supported throughout the disclosure, for example page 5, last paragraph, page 6, second paragraph, and FIGS. 3 and 6 with associated passages in the specification. Therefore, no new subject matter is introduced into the disclosure by way of the present amendment.

Initially, Applicant thanks the Examiner for granting a telephone interview on April 28, 2011 to discuss features distinguishing the present invention over the cited prior art. In the interview agreement was reached that the coefficient encoding means sequentially encoding current m coefficient sets at the same time before the coefficient extracting means extracts the next m coefficient sets belonging to the next m spatial coordinates of the same hierarchy subbands in the scan line order is not disclosed or suggested in any prior art reference made of record to date. Therefore, inclusion of such features would overcome the present rejections.

### **I. Rejection of Claims 74, 75 and 84 Under 35 U.S.C. § 101**

Claims 74, 75 and 84 are rejected under 35 U.S.C. § 101 because the claimed invention is allegedly directed to non-statutory subject matter. Specifically, the Office Action asserts that “computer-readable medium” as recited in the preamble of Claims 74, 75 and 84 does not preclude transitory signal, which are considered non-statutory. With acquiescing to the propriety

of the rejection, the preambles of Claims 74, 75 and 84 have been amended to recite “non-transitory computer readable medium”.

Accordingly, Applicant respectfully requests withdrawal of the rejection with respect to Claims 74, 75 and 84 under 35 U.S.C. § 101.

**II. Rejection of Claims 1 – 3, 5, 7, 50 – 54, 74, 84 and 85 Under 35 U.S.C. § 112, Second Paragraph**

Claims 1 – 3, 5, 7, 50 – 54, 74, 84 and 85 are rejected under 35 U.S.C. § 112, second paragraph as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as the invention.

Claim 2 has been canceled, and Claims 1, 50, 74, 84 and 85 have been amended in a manner believed to render the rejection moot. Accordingly, Applicant respectfully requests withdrawal of the rejection with respect to Claims 1, 3, 5, 7, 50 – 54, 74, 84 and 85 under 35 U.S.C. § 112, second paragraph.

**III. Rejection of Claims 1 – 4, 50 – 52, 74, 75, 84 and 85 Under 35 U.S.C. § 102(b)**

Claims 1 – 4, 50 – 52, 74, 75, 84 and 85 are rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Publication No. 2002/0057844 (hereinafter, “Sirohey”).

Sirohey teaches a compression processes that “...compresses each subband block of tessellated subband 424 (block 434), each subband block of tessellated subband 426 (block 436), and each subband block of tessellated subband 428 (block 438) by successive rows X and columns Y of each respective subband.” (See: paragraph [0109]). Consequently, in Sirohey the data compression is performed for each of subbands LH, HL, and HH.

In cases in which the compression is performed for each subband, as in Sirohey, interleave processing cannot be performed until all coefficients are generated in each subband.

For this reason, Sirohey involves a problem that the quantity of data to be temporarily retained in a memory increases to such an extent to lower the throughput or processing speed.

According to the claimed invention, a plurality of sets ( $m$  sets) of coefficients are encoded. These coefficient sets each are obtained by grouping as a set the LH, HL, and HH coefficients belonging to the same spatial coordinates. That is to say, according to the claimed invention, "...each coefficient set consists of an LH, an HL and an HH coefficient belonging to a same spatial coordinate of same hierarchy subbands, the coefficient encoding means sequentially encodes current  $m$  coefficient sets at the same time before the coefficient extracting means extracts the next  $m$  coefficient sets belonging to the next  $m$  spatial coordinates of the same hierarchy subbands in the scan line order..." as recited in amended Claim 1, and similarly in amended Claims 4, 74, 75 and 85.

Thus, the encoding process of the claimed invention is distinctly different from Sirohey where the data compression is performed for each of LH, HL, and HH subbands. In contrast to Sirohey, Applicant's claimed encoding device and method, in which the coefficient sets are encoded every  $m$  sets and thus the encoding is accomplished in a moment, allows for high-speed processing on a register. Such an advantage is not possible with the system disclosed in Sirohey.

Moreover, the above feature, recited in Claims 1, 4, 74, 75 and 85, satisfies the Examiner's recommendation made in the telephone interview. Consequently, Claims 1, 4, 74, 75 and 85 are believed to overcome the cited prior art references.

With respect to the decoding device and method recited in Claims 50 and 84, "...a coefficient decoding means for decoding an LL subband of an  $n$ th hierarchy ( $n$  being an integer:  $1 \leq n \leq N$ ) for all spatial coordinates, sequentially receiving a code sequence corresponding to LH, HL and HH coefficients of an  $(n-1)$ th hierarchy, performing a decoding operation every  $m$

sets ( $m$  being an integer:  $m \geq 1$ ) of the LH, HL and HH coefficients of the  $(n-1)$ th hierarchy at a spatially same position in a scan line order, and repeating the decoding operation until all spatial coordinates of the  $(n-1)$ th hierarchy are decoded; and inverse wavelet transforming means for performing two-dimensional Haar inverse wavelet transform using the decoded LH, HL and HH coefficients of the  $m$  sets and the LL subband coefficients of the  $n$ th hierarchy at the same spatial coordinates, thereby generating an original image serving as the LL subband of the  $(n-1)$ th hierarchy or an LL subband of a  $0^{\text{th}}$  hierarchy immediately after the coefficient sets of the  $m$  sets are decoded...” is neither disclosed, nor suggested in Sirohey.

It is well-settled by the Courts that “[A]nticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.” Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Company, et al., 730 F.2d 1452, 221 USPQ 481 (Fed. Cir., 1984).

Therefore, as demonstrated above, because Sirohey does not disclose each and every element recited in the claims, Applicant respectfully submits that the rejection has been obviated. Accordingly, Applicants respectfully request withdrawal of the rejection with respect to Claims 1 – 4, 50 – 52, 74, 75, 84 and 85 under 35 U.S.C. § 102(b).

#### **IV. Rejection of Claims 5 – 8, 53 and 54 Under U.S.C. § 103(a)**

Claims 5 – 8, 53 and 54 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Sirohey in view of U.S. Patent No. 7,120,306 issued to Okada.

However, Okada fails to overcome the deficiencies identified above in Sirohey. Therefore, Sirohey and Okada, taken alone or in any proper combination, fail to disclose or suggest features recited in Claims 5 – 8, 53 and 54, which depend from independent Claims 1, 4,

and 50. Accordingly, Applicant respectfully requests withdrawal of the rejection with respect to Claims 5 – 8, 53 and 54 under 35 U.S.C. § 103(a) over Sirohey in view of Okada.

## CONCLUSIONS

In view of the foregoing amendments and remarks, it is respectfully submitted that all claims presently pending in the application, namely, Claims 1, 3 – 8, 22 – 25, 38 – 41, 46 – 54, 74, 75, 84 and 85 are believed to be in condition for allowance and patentably distinguishable over the art of record.

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call Applicant's undersigned attorney at the number indicated below.

Respectfully submitted,

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